REMARKS

Claim 1 has been amended to clarify the invention. Support for the amendment to Claim 1 can be found throughout the specification, for example, at the paragraph spanning pages 17-18, the full paragraph of page 19, the paragraph spanning pages 22-23, the paragraph spanning pages 9-10, the top paragraph of page 6, the paragraph spanning pages 11-12, and the top paragraph of page 14, and in original Claims 2 and 3. Claim 4 also has been amended to clarify the invention. Support for the amendment to Claim 4 can be found throughout the specification and the claims as originally filed, for example, original Claim 3 and Figure 1. No new matter has been added by the amendments.

New claims 15 and 16 are added herein. Support for new claim 15 is found throughout the specification, for example, at the full paragraph of page 19 and Figure 6. Support for new claim 16 is found throughout the specification, for example, at original Claim 4. No new matter is added by the new claims.

Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1 and 4 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claim 1 is rejected because the term "encloses" allegedly does not accurately convey a meaning reflecting the structure depicted in the figures. Claim 1 is amended herein to replace the term "encloses" with the term "encircles."

Claim 4 is rejected because the phrase "the same configuration" allegedly lacks antecedent basis. Claim 4 has been amended to remove the objected to phrase.

In view of the amendment to the claims, Applicants respectfully request removal of this ground for rejection of the claims.

Rejections Under 35 U.S.C. § 103

Claims 1 and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Beau (U.S. Pat. No. 3,352,437) in view of Vita (U.S. Pat. No. 3,497,087) and Hastings (U.S. Pat No. 996,641). Applicant respectfully traverses this rejection.

Applicants respectfully submit that no combination of the above-cited references teaches or suggests all elements of Claim 1. Specifically, no reference teaches or suggests:(1) an inner ring of a carriage which encircles the vertical columns; (2) a drivingly running mechanism incorporated into the carriage; and (3) a drivingly lifting mechanism incorporated into the vertical columns or the table. These missing elements are not obvious variants of the elements disclosed in the cited references because these elements, when combined, result in significant advantages not taught or suggested by the references, such as the entire load of the rotary tower is not applied to the bottom end of the tower, and a large twisting moment is not generated by inertia between the top end of the rotary tower and the bottom end.

Regarding an inner ring of a carriage which encircles the vertical columns, Hastings and Beau do not teach or suggest anything about vertical columns, and the vertical columns of Vita (depicted in Figure 2) are not encircled by any structure that falls within the meaning of carriage, as recited in Claim 1. Moreover, because Vita teaches rotating the table from below (see structures 62 and 70 of Figure 2 and column 6, lines 3-17 of Vita), there would be no motivation to modify the structure of Vita to arrive at the claimed transfer device. Applicants have recognized and taught the benefits of the entire load of the rotary tower not being applied to the bottom end of the tower, and are claiming a transfer device that enjoys these benefits.

Regarding drivingly running mechanism incorporated into the carriage, Hastings does not teach or suggest anything about a drivingly running mechanism, Beau teaches a driving wheel 14 and motor 15 fixed to the wall of the shaft, which shaft is fixed (see Figure 2 of Beau), and Vita teaches rotating the table from below (see above paragraph). Moreover, because neither Beau nor Vita teach use of a plurality of carriages or the problem of creating twisting moments generated by inertia, the references provide no motivation to modify such structures to arrive at the claimed transfer device. In contrast, Applicants have recognized and taught the benefits of a plurality of carriages in a transfer device, and are claiming a transfer device that enjoys these benefits.

Regarding a drivingly lifting mechanism incorporated into the vertical columns or the table, Hastings and Beau do not teach or suggest anything about lifting or vertical columns, and Vita teaches a motor 76 for elevating or lowering the platform, where the motor is not incorporated into the vertical column or the table (see Figure 2 and column 6, lines 53-65 of

Vita). No motivation is provided in any of these references to modify the structures taught therein to arrive at a drivingly lifting mechanism incorporated into the vertical columns or the table.

Notwithstanding Applicants' position that Claim 1 is not obvious over the cited references, in order to facilitate prosecution, Applicants have amended Claim 1 to further indicate that the transfer device has a plurality of carriages that share the entirety of the weight of the transfer device, that the table is capable of moving above the top end of the vertical columns and/or below the bottom end of the vertical columns, that the object on the table is capable of being vertically and horizontally transferred by lifting up and down to a carry in-and-out floor, that the carriage is supported to the rail at a plural portions of the carriage, that a plurality of the vertical columns is arranged within the rail along an inner periphery of the carriage, and that a drivingly running mechanism incorporated into each of the plurality of carriages is capable of rotating the carriages along the respective rails and, by so doing, rotating integrally with the carriage the vertical columns and table.

The elements added in these amendments not only provide further elements not taught or suggested by the cited references, but also emphasize elements that provide advantages over problems with prior transfer devices, which problems are not taught or suggested by the cited references. Such advantages include that the entire load of the rotary tower is not applied to the bottom end of the rotary tower, that a large twisting moment is not generated by inertia between the top end of the rotary tower and the bottom end, that the length of the vertical columns by such inertial limitations, that the vertical columns need not cross the carry in-and-out floor, and that the carry in-and-out floor can be placed in any convenient location.

In view of the lack of teachings or suggestions in the cited references, and in further view of the amendments to the claims, Applicants submit that Claim 1 and claims dependent therefrom are not obvious over the cited references.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Beau in view of Vita and Hastings, and further in view of Newsom (U.S. Pat. No. 2,726,774). Applicant respectfully traverses this rejection.

The Office Action states that Newsom discloses two carriages running on parallel rails.

However, the structures of Newsom do not add to that which is lacking in Beau, Vita and Hastings. In particular, Newsom does not teach or suggest an inner ring of a carriage which encircles the vertical columns, a drivingly running mechanism incorporated into the carriage, or a drivingly lifting mechanism incorporated into the vertical columns or the table. Newsom also does not teach or suggest the newly added elements of Claim 1, in which a plurality of carriages share the entirety of the weight of the transfer device, the table is capable of moving above the top end of the vertical columns and/or below the bottom end of the vertical columns, the object on the table is capable of being vertically and horizontally transferred by lifting up and down to a carry in-and-out floor, the carriage is supported to the rail at a plural portions of the carriage, a plurality of the vertical columns is arranged within the rail along an inner periphery of the carriage, and a drivingly running mechanism incorporated into each of the plurality of carriages is capable of rotating the carriages along the respective rails and, by so doing, rotating integrally with the carriage the vertical columns and table.

Moreover, Newsom does not teach or suggest the problems with transfer devices nor the advantages attributable to the recited elements of Applicants' claimed transfer device. Thus, Newsome, alone or combined with the remaining cited references, cannot render the transfer device of Claim 1 obvious.

Furthermore, Claim 4, dependent from Claim 1, is not obvious over the cited references for all of the reasons Claim 1 is not obvious, and additionally is not obvious because neither Newsom or any other cited reference, or any combination thereof, teaches or suggests a transfer device where each horizontal rail is fixed to a floor where an object to be carried is placed or stored, as recited in Claim 4. Only Newsom and Vita teach vertical devices, and neither teaches or suggests drivingly running mechanisms incorporated into a plurality of carriages, which rotate along the horizontal rails. Thus, neither reference provides any motivation for having each of a plurality of horizontal rails fixed to a floor where an object to be carried is placed or stored. Accordingly, Claim 4 is further non-obvious over the cited references.

Claims 13 and 14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Beau in view of Vita and Hastings, and further in view of Van Dijk (WO 97/16613). Applicant respectfully traverses this rejection.

The Office Action states Examiner asserts that Van Dijk teaches a transfer device comprising vertically aligned upper and lower transfer devices and a carry in-and-out floor.

However, the structures of Van Dijk do not add to that which is lacking in Beau, Vita and Hastings. In particular, Van Dijk does not teach or suggest an inner ring of a carriage which encircles the vertical columns, a drivingly running mechanism incorporated into the carriage, or a drivingly lifting mechanism incorporated into the vertical columns or the table. Van Dijk also does not teach or suggest the newly added elements of Claim 1, in which a plurality of carriages share the entirety of the weight of the transfer device, the table is capable of moving above the top end of the vertical columns and/or below the bottom end of the vertical columns, the object on the table is capable of being vertically and horizontally transferred by lifting up and down to a carry in-and-out floor, the carriage is supported to the rail at a plural portions of the carriage, a plurality of the vertical columns is arranged within the rail along an inner periphery of the carriage, and a drivingly running mechanism incorporated into each of the plurality of carriages is capable of rotating the carriages along the respective rails and, by so doing, rotating integrally with the carriage the vertical columns and table.

Moreover, Van Dijk does not teach or suggest the problems with transfer devices nor the advantages attributable to the recited elements of Applicants' claimed transfer device. Thus, Newsome, alone or combined with the remaining cited references, cannot render the transfer device of Claim 1 obvious.

Furthermore, neither Van Dijk nor any other reference teaches or suggests a transfer device where no vertical column crosses the floor, or a combination of a table of an upper transfer device being configured to carry an object under the table and a table of a lower transfer device being configured to carry an object above the table. Van Dijk merely provides that the parking device can have an above ground part and a below ground part (Van Dijk at column 5, lines 46-55). Neither Van Dijk, Vita or Newsom provides neither teaching nor motivating basis for a transfer device where no vertical column crosses the floor, since all of the vertical devices of these references depend on structures in which vertical columns must serve as the peripheral supports for the entire device. In contrast, Applicants' claimed transfer devices, having a plurality of carriages, does not require the peripheral support

taught in the cited references, and, accordingly, permits the design of transfer devices where no vertical column crosses the floor.

In view of the foregoing, Applicants submit that Claims 13 and 14 are further non-obvious over the cited references.

CONCLUSION

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: March 15, 2006 By: _____

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